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AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior versions of the claims and any prior listing of the claims in the present application. The status of each claim is shown in parenthesis.

In the following listing, Claims 1-5, 8, 9, 12, 15, 16, 19, 22 and 23 are canceled herein. Claims 26-36 were previously canceled in response to a restriction requirement. Claims 7, 10, 11, 14, 18 and 21 are currently amended. New Claims 37-40 are added herein. Claims 6, 13, 17, 20 and 24 remain as previously presented. Claim 25 remains as originally filed.

Listing of Claims

Claims 1-5 (Canceled)

Claim 6 (Previously Presented): A method for embedding magnets in a rotor core, comprising:

positioning a rotor core having a first positioning element into a die having a second positioning element, the first positioning element engaging the second positioning element to hold the rotor core in a fixed position with respect to the die, the first positioning element formed on an outside circumference of the rotor core, the second positioning element formed on an inside circumference of the die, the rotor core being positioned in the die with the first positioning element aligned with the second positioning element, the die further comprising at least one ejector pin that abuts a face of the rotor core when the rotor core is positioned in the die;

filling slits in the rotor core with resinous magnet;

applying a magnetic field to the resinous magnet in each slit to establish a magnetic orientation for the resinous magnet in each slit, the first positioning element and the second positioning element preventing the rotor core from moving under the influence of the magnetic field; and

pushing on the at least one ejector pin to force the rotor core out of the die when the resinous magnet in the slits has hardened.

Claim 7 (Currently ~~Amended~~): A rotor core produced in accordance with the method of Claim [[3]] 6.

Claims 8-9 (Canceled)

Claim 10 (Currently Amended): A method for embedding magnets in a rotor core, comprising:

positioning a rotor core having a first positioning element into a die having a second positioning element, the first positioning element engaging the second positioning element to hold the rotor core in a fixed position with respect to the die, the first positioning element ~~comprising a recess in the at least one face of the rotor core~~ formed on at least one face of the rotor core, the second positioning element ~~comprising a projection on the at least one surface of the die~~ formed on at least one surface of the die, the rotor core being positioned in the die with the ~~recess aligned to receive the projection~~ at least one face of the rotor core abutting the at least one surface of the die and with the first positioning element aligned with the second positioning element, the die further comprising at least one ejector pin that abuts a face of the rotor core when the rotor core is positioned in the die;

filling slits in the rotor core with resinous magnet;

applying a magnetic field to the resinous magnet in each slit to establish a magnetic orientation for the resinous magnet in each slit, the first positioning element and the second positioning element preventing the rotor core from moving under the influence of the magnetic field; and

pushing on the at least one ejector pin to force the rotor core out of the die when the resinous magnet in the slits has hardened.

Claim 11 (Currently Amended): A rotor core produced in accordance with the method of Claim [[8]] 10.

Claim 12 (Canceled)

Claim 13 (Previously Presented): A method for embedding magnets in a rotor core, comprising:

positioning a rotor core having a first positioning element comprising a shaft hole having a keying portion into a die having a second positioning element comprising an alignment pin having a keying portion that engages keying portion of the shaft hole, the rotor core being inserted into the die with the keying portion of the shaft hole aligned with the keying portion of the alignment pin such that the first positioning element engages the second positioning element to hold the rotor core in a fixed position with respect to the die, the die further comprising at least one ejector pin that abuts a face of the rotor core when the rotor core is positioned in the die;

filling slits in the rotor core with resinous magnet;

applying a magnetic field to the resinous magnet in each slit to establish a magnetic orientation for the resinous magnet in each slit, the first positioning element and the second positioning element preventing the rotor core from moving under the influence of the magnetic field; and

pushing on the at least one ejector pin to force the rotor core out of the die when the resinous magnet in the slits has hardened.

Claim 14 (Currently Amended): A rotor core produced in accordance with the method of Claim [[12]] 13.

Claims 15-16 (Canceled)

Claim 17 (Previously Presented): A method for embedding magnets in a rotor core, comprising:

positioning a rotor core having a first positioning element into a die having a second positioning element, the first positioning element engaging the second positioning element to hold the rotor core in a fixed position with respect to the die, the rotor core including a shaft having the first positioning element formed thereon, the die including a hole that receives the shaft, a portion of the hole forming the second positioning element, the rotor core being positioned in the die with the first positioning element on the shaft aligned with the second positioning element portion of the hole, the die also having at least one ejector pin that abuts a face of the rotor core when the rotor core is positioned in the die;

filling slits in the rotor core with resinous magnet;

applying a magnetic field to the resinous magnet in each slit to establish a magnetic orientation for the resinous magnet in each slit, the first positioning element and the second positioning element preventing the rotor core from moving under the influence of the magnetic field; and

pushing on the at least one ejector pin to force the rotor core out of the die when the resinous magnet in the slits has hardened.

Claim 18 (Currently Amended): A rotor core produced in accordance with the method of Claim [[15]] 17.

Claim 19 (Canceled)

Claim 20 (Previously Presented): A method for embedding magnets in a rotor core, comprising:

positioning a rotor core having a first positioning element into a die having a second positioning element, the first positioning element engaging the second positioning element to hold the rotor core in a fixed position with respect to the die, the first positioning element comprising at least one of the slits of the rotor core, the second positioning element comprising at least one pin in the die, the at least one pin moveable in a direction aligned with an axis of the at least one pin, the rotor core being positioned in the die with the at least one of the slits aligned with the at least one pin, the at least one pin entering the slit to preclude movement of the rotor core in any direction other than the direction aligned with the axis of the at least one pin;

filling slits in the rotor core with resinous magnet;

extracting the pin from the slit as the slit is filled with the resinous magnet;

applying a magnetic field to the resinous magnet in each slit to establish a magnetic orientation for the resinous magnet in each slit, the first positioning element and the second positioning element preventing the rotor core from moving under the influence of the magnetic field; and

using the at least one pin to push the rotor core out of the die when the resinous magnet has hardened.

Claim 21 (Currently Amended): A rotor core produced in accordance with the method of Claim [[19]] 20.

Claims 22-23 (Canceled)

Claim 24 (Previously Presented): A method for embedding magnets in a rotor core, comprising:

positioning a rotor core having a first positioning element into a die having a second positioning element, the first positioning element engaging the second positioning element to hold the rotor core in a fixed position with respect to the die, the die also having at least one ejector pin that abuts a face of the rotor core when the rotor core is positioned in the die;

filling slits in the rotor core with resinous magnet;

applying a magnetic field to the resinous magnet in each slit to establish a magnetic orientation for the resinous magnet in each slit, the first positioning element and the second positioning element preventing the rotor core from moving under the influence of the magnetic field; and

pushing on the at least one ejector pin to force the rotor core out of the die when the resinous magnet in the slits has hardened.

Claim 25 (Original): A rotor core produced in accordance with the method of Claim 24.

Claims 26-36 (Canceled)

Claim 37 (New): The method as defined in Claim 24, wherein the first positioning element comprises at least one recess in the outer circumference of the rotor core, and wherein the second positioning element comprises at least one projection on the inner circumference of the die.

Claim 38 (New): The method as defined in Claim 37, wherein the first positioning element comprises a plurality of recesses in the outer circumference of the rotor core,

and wherein the second positioning element comprises a plurality of projections on the inner surface of the die.

Claim 39 (New): The method as defined in Claim 38, wherein the first positioning element comprises a recess in the at least one face of the rotor core, and wherein the second positioning element comprises a projection on the at least one surface of the die, the method comprising positioning the rotor core in the die with the recess aligned to receive the projection.

Claim 40 (New): The method as defined in Claim 37, wherein the shaft has an outer circumference and the first positioning element is a rib on the outer circumference of the shaft, the rib being in parallel with an axis of the shaft, and wherein the hole has an inner circumference and the second positioning element is a groove formed in the inner circumference of the hole and aligned with the rib when the shaft is positioned in the hole.